the RAINBOW

5803 Timber Ridge Drive • Prospect, KY 40059

VOL. I NUMBER 7

EDITOR'S NOTES

We're not going to take the U.S. Postal Service to task, but we'd like to follow up on some comments from last month and explain just what happened.

The innocent little comment that bulk rate mail would delau RAINBOW forgot, frankly. to include the Christmas season. So, for all of you used to receiving your favorite computer magazine right after first of the month, the delay understandably worrusome. received a couple of calls and several letters. By now. however. everyone should have received his or please let us know. We'll send another out first class mail.

(Continued on Page 9)

The Monthly Magazine for Color Computer Users



From OH, GOB! ... Full Listing Inside

her December issue. If you have not, A Look at Word Processors... Part 2, Bantasy Game Aids... A Practical Series... Another New Game ... Hints and Tips... Product Reviews... And More ...

Software Reviews...

WORD PROCESSING COMPARISON OF FOUR DIFFERENT SYSTEMS

By Lawrence C. Falk

Word processing is a new buzzword that is sweeping the businesses and offices of the Western world. Its the newest "thing" and only a short perusal of any business-oriented magazine will find dozens of advertisments for word processing systems.

You can buy a dedicated word processor from someone like \$36,000. Or you can buy software for your trusty Color Computer little as \$19.95 that will handle words almost as well. When you figure you have to buy a printer, too, it still means you can get into word processing for as little as 1/36 the cost of the IBM System-6 processor.

In some ways, a typewriter is a word processor. It allows you to get (Continued on Page 11)

SHUFFLE OFF TO CARDS...OF COURSE

Here's program designed specifically for the 4K Color Computer that, through some excellent programming technique, allows you to and really COnserve memory do something that, normally, would too memory-expensive.

For those of you with more memory to play with, this routine will allow you to get a little more fancy with the rest of the RAM. It comes from Wayne Diercks at Rainbow Connection Software.

Rainbow Connection Software isn't affiliated with the RAINBOW, but, with this kind of useful programming, maybe it should be. At any rate, we'll let Wayne explain this routine in some detail:

"In attempting to design an AUTHENTIC three-player blackjack program to fit into the 4K Color Computer (2.6K of user memory). bound bu established card-shuffling routines. These all created massive arrays and randomly shuffled them before dealing from the top of the array. This required large amount of memory which was just unacceptable.

"We eventually settled on a totally new approach which is very short and efficient. The algorithm creates a deck of 52 cards in any order stored as a string variable, deals a card from the random middle of the deck, and then compresses the string to eliminate unnecessary search time.

"We saved even more memory creating four identical decks (suits one through four) and dealing from the middle of a random suit at expense of a slight delay at the of the suits. The entire subroutine consumes less than 300 bytes (without remarks and optional printout subroutines) and deals as well anything we've seen elsewhere. was the key to making our BLACKJACK game a reality (available with MATH TUTOR on cassette for \$9.95 from Rainbow Connection, plus \$2 shipping and handling)."

Here's the listing for this subroutine:

- 10 * **************
- 11 ' *** CARD DEALING ***
- 12 ' *** SUBROUTINE ***
- 14 ' *** BY ***
- 15 * ***RAINPOW CONNECTION***
 16 * *** SOFTWARE
- 30 ' ESTABLISH 4 SUITS (DENOTED

è

- AS 1,2,3,4) IN ANY ORDER (A B REPRESENTS A 10)
- 40 CLS:C=0:FOR S=1 TO 4:D\$(5)="2 34567890JQKA":NEXT
- 50 ' DEAL CARD FROM RANDOM MIDDLE OF ONE OF 4 DECKS

(SUITS) AND COMPRESS STRING
60 S=RND(4):L=LEN(D\$(S)): IF L=0
THEN 50: 'CHECK FOR EMPTY SUIT
70 V=RND(L):C\$=MID\$(D\$(S),V,1):D
\$(S)=LEFT\$(D\$(S),V-1)+RIGHT\$(D\$(S),L-V):C=C+1:GOSUBB0:IF C=52 TH
EN30 ELSE 50: 'CHECK FOR END OF
DECK

80 'OPTIONAL DISPLAY OF CARD OR ENTRANCE TO BODY OF PROGRAM 90 PRINTA480.C\$" "S.C:D\$(S):PR INTA0, "VAL SUIT"," # REST OF SUIT":SOUND S*50,1:FOR D=1 TO 200: NEXT:RETURN

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Lawrence C. Falk -- Editor

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Payment accepted by cash, check, money order, VISA or NASTERCARD. Please include account number, expiration date and your signature when using bank cards.

The RAINBOW is published every month of the year.

CHECKBOOK BALANCE

Oh yes, its that time of the year again. By THAT time, we mean, of course, time to start worrying and figuring on the old income tax!

We do hope that the January issue of the RAINBOW beat your "custom prepared" package of income tax forms to your mailbox. If so, you can relax when the bad stuff comes because help is on the way. If IRS beat us ... now you can relax. Thanks to the RAINBOW.

With this program we begin a three-part series named. appropriately, MOM. Its short for "My Own Money" and will, we hope, help you at tax time and all through year. think And we appropriately named -- for Mom, who always told you "Don't worry about all that, Sweetie."

Well, don't worry about all that, Sweetie. The following program

will serve you well at this time year, helping you balance checkbook as all the holiday roll in. And, next month, we'll have a goodie which shows you how to set up a simple file to keep track your income tax deductions. Finally, in March -- as the tax begins to rear its ugly head -- there will be a program that will take the information you collect February program and do rough computation of your income tax.

The following program, BANKER, is short and sweet. You simply need be armed with your checkbook and your bank statement. First, you enter your checkbook balance, and then your bank balance as it appears on your statement. Then, enter all the checks that have not cleared the bank, and their amount.

We've left room for 100 checks (and we hope there aren't that many) for you to handle. After the last check is entered, key in the word "END" and the program will move on to allow you to enter all deposits made (Continued on Page 4)

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CHECKBOOK (Cost'd from Ps. 3)

but not credited. There is room for 10. Again, enter "END" when you are done.

Finally, if there is a service charge on your account, just add that when prompted to do so. The program will start calculating and will quickly tell you whether you show more, less or the same amount as the bank does. If you balance, you get a nice message.

If you do not have a printer, you can end the program after Line 270. If you want a printout and have the means to do one, enter in the whole listing. LP VII users should note this program supports their printer. For LP VIII owners, change Line CHR\$(31) in 350 CHR\$(27)CHR\$(14) and the CHR\$(30) in Line 360 to CHR\$(27)CHR\$(15). Those of you with other printers can either (1) turn on extended printing in Line 350 and turn it off in Line 360 with your own control sequences or (2) eliminate the CHR\$ references altogether.

Non-Extended Color Basic owners should note the STRING* functions can either be eliminated or changed to read PRINT *(and put 32 ='s marks here):

Non-Extended users will also want to eliminate the references to PRINT USING in the printout section and eliminate Line 7.

The listing:

D ********************** 1 *** MANAGING OUR MONEY ** 2 '** (MOM #1) 3 '## (c) FALSOFT, 1981 ## 4 ************** 5 CLEAR1000:DIMCO\$(100),CA\$(100) 7 FMs="\$##,###.##" 9 CLS 10 INPUT " (ENTER> CHECKBOOK BALA 15 INPUT "<ENTER> BANK'S BALANCE " : BB 17 CLS 20 FOR X=1 TO 100 30 INPUT "CHECK OUTSTANDING -- P AYABLE TO" (COS(X) 40 IF CO\$(X)="END" THEN 60

50 INPUT " AMOUNT OF CHECK"; CA (X) 52 PRINTSTRING\$ (32,45); 55 Z=X:NEXTX 60 CLS 70 FOR X=1 TO 10 80 INPUT "(ENTER) DATE OF DEPOSI BANK STATEMENT";DD\$ T NOT ON (X) 90 IF DD\$(X)="END" THEN 110 100 INPUT "DEPOSIT AMOUNT"; AD(X) 103 PRINTSTRING\$ (32,45); 105 Y=X:NEXTX 110 CLS: INPUT *BANK CHARGES NOT SUBTRACTED BY YOU" ; BC 200 ' *** CALCULATIONS *** 210 FOR X=1 TO Z:TC=TC+CA(X):NEX T:FOR X=1 TO Y:TD=TD+AD(X):NEXT 220 T1=BP-TC:T2=T1+TD:T3=T2-PC 230 CLS:PRINT:PRINT " YOUR ADJ USTED BANK BALANCE IS "; PRINT USINGFMs:T3 240 PRINT 245 TB=T3-CB 250 IF TB>0 THEN PRINT BANK SAYS YOU HAVE ";:PRINTUSINGFM\$;TB;:P MORE THAN YOU SHOW. " 260 IF TB<0 THEN PRINT BANK SAYS YOU HAVE ";:PRINTUSINGFM\$;TB;:P RINT" LESS THAN YOU SHOW." 270 IF TB=0 THEN PRINT "CONGRATS YOU BALANCE!" 300 ' *** PRINTER ROUTINE *** 309 PRINT 310 INPUT "WOULD YOU LIKE TO HAV E THIS PROCESS PRINTED OU T (Y/N)";ZZ\$ 320 IF LEFT\$(ZZ\$,1)="Y" THEN CLS :G0T0330 325 END 330 INPUT "<ENTER> YOUR NAME";A\$ 335 INPUT "<ENTER> TODAY'S DATE IN THE FORM MM/DD/YYYY";DT\$: CLS 340 PRINTa224," THANK YOU. YOU

ED OUT FOR YOU."

350 PRINT#-2, CHR\$(31)A\$ " BANK R
EPORT":PRINT#-2, "EFFECTIVE "DT\$

360 PRINT#-2, CHR\$(31):PRINT#-2:P
RINT#-2

370 PRINT#-2, "YOUR BANK SAYS YOU
HAVE A BALANCE OF TAB(65);:PRIN
T#-2, USINGFM\$;BB

380 PRINT#-2

370 PRINT#-2, "FIRST, WE SUBTRACT
ED THESE OUTSTANDING CHECKS:"

400 FOR X=1 TO Z

R INFORMATION WILL NOW BE PRINT



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TR

SAME AIDS #2

CREATING FANTASY GAME CHARACTERS WITH STRENGTH AND WISDOM

By JOHN L. URBAN

Last month we discussed RND(0) and the RND(10) differences. The basic difference is in the number we get -- whether it will be a decimal or a "real" number. An example of this would be RND(0)=.49827879. You can see this action by running the following program:

10 PRINT RND(0) 20 FOR I=1 TO 100:NEXT I 30 GOTO 10

ह्रा . What you will see is a series of numbers, all less than one but more than zero. By letting this program run awhile, you will notice that sometimes a number like 6.88379014E -3 will be printed. Does this mean the number is greater than one? No it doesn't. NEW the program and run this one:

10 X=1: REM INITIAL VALUE OF X IS 1

20 X=X/2: REM DIVIDE X BY 2

30 PRINT X

40 IF X=0 THEN END: REM THIS SO WE CAN END WHEN 0 IS PRINTED

50 FOR I=1 TO 60: REM TO SLOW DOWN THE OUTPUT

60 GOTO 20: REM NOW THAT X/2 WE GO BACK TO LINE 20 TILL X=0

These types of numbers are referred to as "scientific notation." *E" means "exponential," which is covered in the Extended Basic Manual to the degree I don't have to go into detail here. Suffice it to say that 6.88379014E-03 is actually .00688379014. The number is too small for the computer to print out. The -03 means the number is less than one and the decimal point moves three spaces to the left, with zeroes used to fill in blank spaces.

RND(0) that we have explained, how can we make it useful? Last month, I explained in detail the various ways to use RND(0). Briefly, to use it follow this formula: X=INT(RND(0) #A) where A is the argument. This will create a number from 0 to the argument -1. For example, X=INT(RND(0)+10) will return . X=RND(18). Next, we write a program a number between 0 and 9. To produce a number from 0 to 10, change the 10 to H.

But what about RND(10)?

RND(10) will produce a number from 1 to 10, not 0 to 10. Now that RND is explained, what do we do with it? And how does it apply to a FRP game?

In most FRP games, a character must be created with random rolls of a certain amount of dice. Perhaps

the dice required have six sides (like "normal" ones), perhaps more or less. Some games require more than one die be thrown. If we are required to throw three six-sided die, then the largest number possible is 18 and the lowest is Therefore, our variable would that will display our random number on the screen.

500 GOSUR30000 510 PRINT X 30000 x=RND(18):RETURN

When we run this, we get a number from 1 to 18 and a message "?RG ERROR IN 30000". What the computer is saying is that it went to 30000 after the initial RETURN and then found that it could not return again, since it wasn't told where to

(Continued on Page 7)

AIDS (Cont'd from Ps. 6)
return to. To fix this, we must stop
it from going into line 30000 unless
we want it to.
So we add this line:

29000 END

It should run fine now.

But our program still has very little use. Let's put in something that would make a little more sense. Change line 510 to read:

510 PRINT "STRENGTH="X

Now we have a program that will determine at random what the strength characteristic will be. Each time the program is run, a new number is chosen. Make a loop in the program to print out five seperate numbers. Add these lines.

10 FOR I=1 TO 5 700 NEXT X

By running this program, we will get five different numbers ... but there is still something wrong. If there are two digit numbers printed, it looks fine. But if a number less than 10 is printed, that number is printed in the 10's column as it should be.

By using PRINT USING, we can make the numbers look a lot neater. Add line 515:

515 PRINTUSING "STRENGTH= ##" :x

Now you will see 10 numbers, all listed after "STRENGTH=". All the two digit numbers look fine, but when a number less than 10 is printed, the first one is still in the 10's column while the next number is in the 1's column where it should be. Delete line 510 and run the program. It now produces five numbers, all lined up nice and neat.

PRINT USING can be of great use in a large number of applications. (RAINBOW Vol. I No. 4 had an extensive tutorial on this function.) But, since we're concerned with FRP games here, let's add:

520 GOSUP 30000

530 PRINT USING "INTELL= ##" :X Page 7

Running the program again, we now have 10 numbers in two seperate categories, Strength and Intelligence. You can add as many categories as you want, so long as you get a random number from the routine in 30000.

Now rewrite the subroutine with these lines:

30000 X=RND(18) 30010 IF X<3 THEN 30000 30020 RETURN

Remember, we are using The lowest number we six-sided die. can have is three (one on each If the random number comes up at less than three, line 30010 sends the program back to 30000 to choose another number. Some games, however, require that when the largest number is chosen (18 in this case) then a percentile must be rolled. How can we do this?

Just as in the change we just made in our subroutrine, we can create what is now called a (Continued on Page 13)

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Me! DISK FILE CONVERSIONS

those of you who are considering a disc system (with some that left-over holiday Boneu. perhaps?) but have just tons of programs using cassette input/output, never fear. The conversion is really simple.

As many of you know, the way to write to a cassette file is a simple procedure. You OPEN the file, PRINT the information into the file, and then CLOSE the file. To get your information back out, you simply OPEN the file, INPUT the information back into memory, and CLOSE the file again.

Essentially, when dealing with disc I/O, the procedure is the same in dealing with sequential files much like those you use on tape. disc, you OPEN the file, PRINT or WRITE the information, and then CLOSE the file. For getting information back out, you simply use INPUT, like the cassette, rather than PRINT or OPENing and CLOSing are WRITE. the same.

There are some things you have to do differently, and we're going to explain them here. That should help those of you who have discs. For those who plan to get one, it should be comforting to know a few quick edits will convert your tape files to disc files.

Tandy's Extended Color Basic manual has a discussion of "device" numbers beginning on page 164. Well, these device numbers get a bit more significant when you upgrade to disc.

Recall that "Device -1" 15 th cassette recorder and "Device -2" 15 the printer. Now be told that Device #1" is a buffer area in that memory communicates with disc drive. (Actually, there are 15 possible buffer areas, but that's another article.)

So, let's look at the method opening a file for a cassette data The print. form is: OPEN *O",-1, "FILENAME". Now, to do the same thing on disc, the form is: OPEN "O",#1,"FILENAME". What could more simple? All you need do 15

(Continued on Page 17)



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EDITOR NOTES (Cont'd from Fq. 1)

also played havoc with A couple of the ones we'd stories. promised for this month were delayed. So, we're going ahead without them and plan to include them next month. As a result. February, the shortest month. will bring the biggest RAINBOW. As you will see from month's the issue, amount advertising is expanding. So, we can (and, except for the mail would have) print bigger issues.

By the way, we solicit articles for the RAINBOW. We will Pay for significant ones. And. while We don't pay for the hint/tip type items, we hope you will continue send them along. This payment for stories is new -- and somewhat modest thus far -- but we do want to bring you the best information about Color Computer.

We want to lay a rumor to rest. not planning to raise our We are subscription rate at the present We're a monthly, have always been a monthly, and do not plan

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charge more to bring the RAINBOW to you on a monthly basis. We HAVE raised our advertising rates, because we're able to reach so many more of We will not raise subscription WOU. rates without giving you a chance to renew at the old rate of year.

By the way, to echo Wayne Green (who publishes a magazine himself), let me encourage you to attention of the RAINBOW to computer store at which you trade. We give a good percentage to outlets and the RAINBOW can be lot of money-maker for a computer store owners. And remember, the more people who read the RAINBOW means a base from which to programs and the like for everyone.

Thanks for your support last year. We look foward to an even better 1982 and hope you will enjoy each day of it with us.

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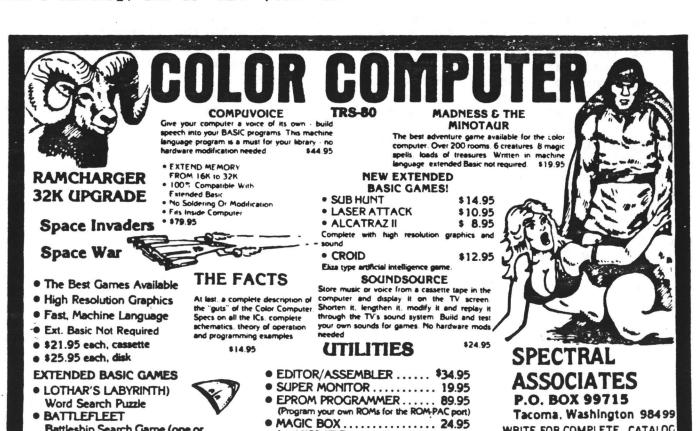
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GET THAT GOBBLER!

From those wonderful people at Illustrated Memory Banks who brought you so much fun with ZELDA'S BAT BOTTLE just a short month ago now comes...OH, GOB!

If you're sick and tired of leftover turkey by this time of the year, here's a chance to help out a friendly turkey and yourself.

. OH, GOB! lets you help the turkey by moving it through a field while a bunch of pilgrims... shoot at it. Use your joystick. Every time the turkey makes it safe, you score a turkey. If the turkey gets shot, the pilgrims score a hat. You have save five turkeys before the top of the screen is filled with pilgrim hats to win.

As with ZELDA, we hope you'll pay attention to the fine BASIC graphics by Fred Scerbo of IMB (P.O. Box 289, Williamstown, MA 01267).

Two notes: Some Color Computers have trouble using the CPU speedup routine (RAINBOW Vol. 1, No. 1) which is contained here in Line 630. yours is one of them. merely Line 10 to delete the GOSUB630 and If the speedup delete Line 630. works O.K., you will want to type before POKE 65494,0 in command mode saving the program to tape. Recause type in the whole of the speedup, program before running it.

If the odds are too tough for you, then you can affect them by an edit to Line 280.

Have a good time with the gobblers!

The Listing:

10 GOSUB630:GOSUB470:GOTO30 20 X=JOYSTK(0):P=JOYSTK(1):RETUR N

LUNL2UL2D2LD3LD8E2U4R5GFGDNL2DLD F2DR15L5D2HGHGHGHGHGNU6LNU6LHNU4 LNU4LNU4GNU5LNU5LNU5LNU5LNU4LNU3 40 C\$="V3101L255RC" 50 D\$="01L50C04L150P" 60 CLS(0): PMODE3, 1: SCREEN0, 1: PCL 5(5) 70 T\$= C2NLUC4H2U3LND3R2D4UEND3R D3NLC2DNRUC4EUNHC2U2FNLC3RD" 80 DRAW"SBBM126,92;C0"+T\$ 90 DIMT(19,27) 100 GET(114,72)-(134,100),T,G 110 PMODE3,1:PCLS(4):SCREEN0,1 120 DRAW" S20PM30,80; C3U10RBD10LB BE2U6R4D6NL4BF2BR2U1@R2D4R3U4R2D 10L2U4L3D4L2BR10U2R2D2GULBL20C1B D3D1ØR8U6L4D2R2D2L4U6R6U2NL8BR2R 8D10L8U10BF2D6R4U6NL4BE2BR2R7FD3 GFD3GL7U1ØBF2R4D2L4U2BD4R4D2L4U2 BD4BR9U2R2D2L2BU3U7R2D7L2* 130 PAINT(32,70),3,3:PAINT(86,70),3,3:PAINT(138,74),3,3:PAINT(32 ,100),1,1:PAINT(86,100),1,1:PAIN T(138, 100), 1, 1: PAINT(188, 100), 1, 1: PAINT(188, 140), 1, 1 140 PMODE4,1:SCREEN1,1 150 DRAW"S4BM6, 162; "+P\$:LINE(6, 1 72)-(15,180), PRESET, BF 160 FORI=30T0200STEP2:PUT(30+1,1 60)-(50+I,188),T,PRESET:PLAYD\$:N EXT 170 W=7.6:GOSUP310:GOSUP310 180 FORL=1T010STEP3:CIRCLE(240,1 72), L, 5: NEXT 190 FORL=1T01000:NEXT:I=0 200 PMODE4,1:PCLS(5):SCREEN0,1 210 LINE(0,15)-(256,162), PRESET, 220 LINE(236,15)-(236,162), PRESE 230 FORK=30T0130STEP20:K\$=STR\$(K):DRAW"S4BM4,"+K\$+";"+P\$:NEXTK:S CREEN1.1 240 GOSUB340:GOSUB20:IFP<20THENG OSUB380ELSEIFP>44THENGOSUB350 250 IFI=>200THEN260ELSEIFI<200TH EN280 260 FORV=1T010:PLAYD\$:NEXTV:PUT(226-5,164)-(246-5,192),T,PRESET: S=S+28: IFS=>140THEN560 270 GOT0440 280 Q=RND(10):IFQ<9THEN330 290 W=RND(6):IFPPOINT(40+1,19+(2 0*W))=0THENU=1 300 GOSUB310:GOTO320

(Continued on Page 15)

30 P\$= COR12L3U2NL6LUNL4UNL4UNL4

PROCESSORS (Cont'd from Mg. 1) words on paper, and, essentially, that is what word processing is all about. How easy that is, what you do to edit the words once you have "captured" them in memory and the like are what distinguish good word processors from outstanding ones.

The Color Computer's most simple word processor is a three-line program. And, if you want to get into this really inexpensively, just key this in:

10 INPUT A\$
20 PRINT#-2,A\$
30 GOTO 10

That, my friends, is a word processor. And, frankly, it is as good as any typewriter you can buy — and it came to you for only a \$12 yearly subscription.

But things can get messy when you want to change a word after it is printed. And that's where the real word processors come into play. And, if you want to set margins, top of form, indent easily or the like, you can't do it with our little program above.

Currently, there are four word processing programs available for the Color Computer. In an effort to sort things out, the RAINBOW obtained copies of each from the author and will compare them here. If you have to do any word processing — whether it is a letter every once in a while or preparing a church bulletin each week — there is something here for you.

Each of these programs is a bona fide commercial version which you can purchase. None are "under development," although the authors have shared plans for the inclusion of certain features which we will pass along and clearly identify. firmly believe But, we processors are a good tool to have, and we encourage you to choose the one which meets your needs the best.

The word processors currently available are (in order of cost): WORDCC7 (\$19.95), C.C. WRITER (\$30), TELEWRITER and TEXT EDITOR/WORD PROCESSOR (both \$49.95). Information to where to obtain them is located at the end of this review.

In evaluating word processors, there are four areas which are most important. These are display and input, editing ease, I/O capability and special features.

DISPLAY AND INPUT

How the word processor displays your typed-in copy is very important, because that is what you are dealing with in doing your writing and editing. Except for TELEWRITER, all programs use the "normal" display screen with its 32 characters by 16 lines format. All, also, allow the text to break up at the end of a line, or, break words in the middle as necessary. Since this is what the screen often looks like anyway, it isn't much of a problem.

TELEWRITER, however, is the only machine language program of the lot (although some of the others use M.L. subroutines). It creates a screen which is 51 characters wide by 24 lines long. TELEWRITER does not break words up, but pushes them down to the next line as you type. It makes for a very attractive and extremely readable screen display. While TELEWRITER's characters are significantly smaller than "standard" letters, there is little difficulty reading them with ease.

Both C.C. WRITER and WORDCC7 use a standard screen and reverse video for lower case. TEXT EDITOR blacks the screen, which makes it much easier to see the lower case letters. TELEWRITER uses true lower case formed letters, although without descenders.

As to input, you just start typing with both TELEWRITER and TEXT EDITOR, and keep typing until finished. With C.C. WRITER, you must

TELEWRITER

-Provides your COLOR COMPUTER with:

REAL LOWER CASE CHARACTERS A POWERFUL TEXT FORMATTER

51 COLUMN × 24 LINE SCREEN DISPLAY SPECIAL DRIVER FOR EPSON MX-80

ADVANCED CASSETTE HANDLING FEATURES A SOPHISTICATED FULL-SCREEN TEXT EDITOR

— and requires absolutely no hardware modifications —

TELEWRITER

Telewriter is a powerful word processor designed specifically for the Color Computer. It can handle almost any serious writing job and it is extremely easy to use. It has all the advanced features you need to create, edit, store, format and print any kind of text. With Telewriter you can quickly produce perfect, finished copy for letters, reports, term papers, articles, technical documentation, stories, novels, screenplays, newsletters. It is also a flexible and efficient way to take notes or organize ideas and plans.

51 × 24 DISPLAY

The Color Computer is an incredibly powerful and versatile computer, but for text editing it has some major drawbacks. The small 32 character by 16 line screen format shows you too little of the text and, combined with its lack of lower case letters, bears little resemblance to the way text really looks on the page. Reverse video in place of lower case just adds confusion.

Telewriter eliminates these shortcomings with no hardware modifications required. By using software alone, Telewriter creates a new character set that has real lower case letters, and puts 24 lines of 51 characters on the screen. That's more on-screen characters than Apple II, Atari or TRS-80 Model III. That's more than double the Color Computer's standard display.

FULL SCREEN EDITOR

The Telewriter editor is designed for maximum ease of use. The commands are single key (or single key plus control key), fast, and easy to remember. There is no need to switch between insert modes and delete modes and cursor movement modes.

You simply type. What you type is inserted into the text at the cursor, on the screen. What you see on the screen is always the current state of your text. You can move quickly through the text with one key cursor movement in all 4 directions, or press the shift key simultaneously for fast, auto-repeat. You can jump to the top or bottom of the text, the beginning or end of a line, move forward or backward a page at a time, or scroll quickly up or down. When you type past the end of a line, the wordwrap feature moves you cleanly to the next.

You can copy, move or delete any size block of text, search repeatedly for any pattern of characters, then instantly delete it or replace it with another. Telewriter gives you a tab key, tells you how much space you have left in memory, and warns you when the buffer is full.

FORMAT FEATURES

When it comes time to print out the finished manuscript, Telewriter lets you specify: left, right, top, and bottom margins: line spacing and lines per page. These parameters can be set before printing or they can be dynamically modified during printing with simple format codes in the text.

Telewriter will automatically number pages (if you want) and automatically center lines. It can chain print any number of text files from cassette without user intervention. You can tell it to start a new page anywhere in the text, pause at the bottom of the page, and set the Baud rate to any value (so you can run your printer at top speed).

You can print all or any part of the text buffer, abort the printing at any point, and there is a "Typewriter" feature which allows you to type straight to your printer. Because

Telewriter lets you output numeric control codes directly (either from the menu or during printing), it works with any printer. There's even a special driver for the Epson MX-80 that lets you simply select any of its 12 fonts and do underlining with a single underline character.

CASSETTE HANDLER

Telewriter makes cassette as simple to use as possible. It will search in the forward direction til it finds the first valid file, so there's no need to keep retyping a load command when you are lost in your tape. You can save all or any part of the text buffer, and you can append pre-existing files to what you have in the buffer already. You can abort an append or filesearch without harming the program or the text in the buffer.

Telewriter will maintain compatibility with popular Color Computer disk systems, but, since it makes using cassette almost painless, you can still have a powerful word processor without the major additional cost of a disk.

AVAILABLE NOW

Telewriter turns your Color Computer into the lowest cost hi-power word processor in the world today. It runs in 16K or 32K (32K recommended) and is so simple you can be writing with it almost immediately. It comes with complete documentation and is fully supported by Cognitec. Telewriter costs \$49.95 (California residents add 6% tax). To order or request more information write:

Cognitec 704 Nob Ave. Del Mar, Ca. 92014

Or call (714) 755-1258 (weekdays, Saturdays, and early morning). We will gladly answer your questions.

Apple II a registered trademark of Apple Computer, Inc.; Atan: a registered trademark of Atan, Inc., TRS-80 a registered trademark of Lindy Corp. MX-80 a registered trademark of Epson America, Inc.

conditional flag. Here, again, we will use an IF ... THEN statement. We use them every day. For instance, when you're driving down the street, IF you see a red light THEN you stop. IF it is green, THEN you go on. This could be written IF LIGHT=GREEN THEN GO, ELSE IF LIGHT=RED THEN STOP. The same thing applies to programming. IF our strength=18 then we must find a way to roll a percentile. Add this line:

505 IF X=18 THEN GOSUR 40000

Now we write the percentile roll:

40000 Y=INT(RND(0)*101):

Don't press <ENTER> yet. We still must have some way of showing our percentile, and not show 18 twice. If we use a RETURN, then our percentile won't be printed. We also cannot make line 515 print out the percentile if the strength is less than 18.

To make sure the percentile will be printed when required, we must create a string.

To change the random number Y to a string, we use a STR\$ function. To separate this from our strength of 18, we must use a partition. I'll use "/". Add this to line 40000: Y\$="/"+STR\$(Y):

This will add the "/" with STR\$(Y) to make a string. To print the percentile as the new strength, add

PRINT USING"STRENGTH= ##";X;: PRINT Y\$:RETURN

To insure that the strength is only printed once for each loop if our strength is 18, add to line 505: ":GOTO 520". Now, each time your strength becomes 18, we will have a percentile roll.

You can experiment with this program and adapt it to your own use.

Next month I will expand the program to give a complete set of

CHECKBOOK (Cont'd from Pr. 4)

410 PRINT#-2, TAB(5) CO\$(X) TAB(35) ##PRINT#-2, USINGFM\$; CA(X) 420 NEXT X 425 PRINT#-2, TAB(50) "----" 430 PRINT#-2, TAB(10) THESE TOTAL "TAB(50); PRINT#-2, USINGFM\$; TC;: PRINT#-2, TAB(65)"----" 435 PRINT#-2, GIVING A TEMPOR ARY BALANCE OF TAB(65); PRINT#-2 ,USINGFM\$;T1 440 PRINT#-2 450 PRINT#-2, "NEXT, WE ADDED THE SE DEPOSITS:" 460 FOR X=1 TO Y 463 PRINT#-2, TAB(5)DD\$(X)TAB(35) # PRINT#-2,USINGFM\$;AD(X) 467 NEXT X 470 PRINT#-2, TAB(50) "----" 475 PRINT#-2, TAB(10) THESE TOTAL "TAB(50); :PRINT#-2, USINGFM\$; TD; : PRINT#-2, TAB(65) "----" 477 PRINT#-2," GIVING A NEW TE MPPORARY BALANCE OF TAB (65); PRI NT#-2, USINGFM\$;T2 480 PRINT#-2 490 PRINT#-2, "FINALLY, WE SUBTRA CTED A SERVICE CHARGE OF TAB (65) ::PRINT#-2,USINGFM\$:BC 495 PRINT#-2, TAB(65) "----" 500 PRINT#-2," THIS GIVES US A N ADJUSTED BOOK BALANCE OF TAB (6 5);:PRINT#-2,USINGFM\$;T3 505 PRINT#-2, TAB(65) "=======" 510 PRINT#-2 520 PRINT#-2," THIS COMPARES T O YOUR CHECKBOOK BALANCE OF TAB(65);:PRINT#-2,USINGFM\$;CB 525 PRINT#-2, TAB(65) "=======" 530 PRINT#-2 540 PRINT#-2." OR A DIFFERENCE OF ----> TAB(65); PRINT#-2,U SINGFM\$:TB 550 END

characteristics to more than one character and then store each of these characteristics in memory.

This being the second in the FRP series, I would enjoy hearing from you. Let me know what you think about the series, make any suggestions you'd like ... or just say "hello." Send all comments via the RAINBOW.

Until next month. And don't let any red dragons step on your toes.

PROCESSORS (Cont's from Po. 11)
hit ENTER after each sentence (or
group of short sentences). WORDCC7
functions much like a typewriter,
with an audio "bell" sounding when
you get to 56 characters in a maximum
60 character line. If you go past 60
characters, it automatically skips to
the next line — which can cause
problems if you don't pay a little
attention to it.

All four programs have some way to automatically indent for paragraphs, important if you are one of those people who wants to hit a "tab" key. The indent is a little more involved for the two less expensive programs. Frankly, we always just space over manually, anyway.

EDITING EASE

The three BASIC programs are all line oriented. WORDCC7 and C.C. WRITER give you the line numbers as you input each line with the ENTER key. TEXT EDITOR assigns line numbers, but doesn't display them while you are typing.

Since they are line-oriented, the three BASIC programs require you to know the number of the line you wish to edit or change. With TEXT EDITOR, the most simple way to do this is to print out a draft, which displays the line numbers. While C.C. WRITER allows you to print out a line-numbered draft, too, it will also allow a form of "scroll" through the text lines using a sophisticated function called "Lineseeker." The Lineseeker is very fast and very effective.

WORDCC7 also uses a form of with line scholling, numbers displayed on the In screen. addition, all programs have a "global" find, which allows you to specify a certain text. Each will be displayed. This is a very handy option to use when you do not know the line number you want to edit.

TELEWRITER, on the other hand, uses a true scroll and allows the cursor to move anywhere in the text.

The editing is done on the display screen, without the necessity of going to an "alternate" screen.

Of the three BASIC programs, C.C. WRITER's editor is the most sophisticated and easiest to use. Its Lineseeker gets you where you want to go quickly, breaks the line apart using cursor controls, and then allows you to do what you want with the line. WORDCC7 and TEXT EDITOR use the "replace string" format, which means you type out the part of the line you want to edit, and then type in the edited version. This can require more typing, but is easy to use.

All four programs allow basic editing to functions be performed with ease. And talking here about things like inserting or deleting lines or paragraphs, moving or copying blocks of text and the like which you can NEVER do on a typewriter. These editing features are so essential to effective word processing they are "standard" and all are handled well.

There is, in short, nothing shabby about either of these programs as far as the editing functions are concerned. They handle things quite well and do far more than is possible with a typewriter, no matter how good the typewriter is.

I/O CAPABILITY

All four systems are designed to be used with cassette tape recorders. The process is simple to save copy to tape in order to play in back at some other time. You can also keep an "electronic" file of your correspondence if you so desire.

The tape store and save features of all four programs as pretty straightforward. TELEWRITER, however, has an excellent cassette handler which eliminates one of our main objections to tape —— the necessity to find the start of a program (or a blank space on the tape) to avoid an I/O ERROR. TELEWRITER doesn't care were you start on the tape, it doesn't get

310 CIRCLE(30,19+(20+W)),2,0:CIR CLE(30,19+(20*W)),2,5:LINE(30,19 +(20*W))-(40+I,19+(20*W)),PRESET

*PLAYC\$: COLOR5, 0 : LINE-(30, 19+(20)

#W)), PSET : RETURN

320 IFU=1THEN420

330 GOTO240

340 PUT(30+1,24+Y)-(50+1,52+Y),T

. PRESET: RETURN

350 I=I+2:Y=Y+8:IFY=>104THENY=10

360 IFI=>200THENI=200

370 GOSUB340: RETURN

380 I=I+2:Y=Y-6:IFY<=0THENY=0

390 IFI=>200THENI=200

400 GOSUB340: RETURN

410 GOTO410

420 PMODE4,1:SCREEN1,0:FORM=1T03 :PLAYD\$:NEXTM:PMODE4,1:SCREEN1,1 430 R\$=STR\$(R):DRAW"S4PM"+R\$+",1 2; COR12L3U2NL6LUNL4UNL4UNL4UNL4L

UNL2UNL2D2LD3L2D2C5":R=R+15:IFR= >255THEN560

440 LINE(30+I,16+Y)-(50+I,44+Y), PSET, BF:LINE(236, 15)-(236, 162), P RESET

450 U=0:Y=0:I=0:GOTO240

460 GOTO460

470 CLS(0):PMODE3,1:COLOR3,1:PCL S(0):SCREEN0,1:LINE(20,8)-(234,9 2), PSET, B: DRAW" 54BM0, 20; UBR6D4NL 6D4BR4U8F6D2U8*

480 COLOR4, 2:LINE(28, 16)-(60, 84) , PRESET, PF

490 LINE(68,32)-(104,84), PRESET, BF:CIRCLE(86,32),20,2,.9,.52,.98 :PAINT(86,19),2,2:PSET(86,15)

500 LINE(108,32)-(144,84), PRESET ,BF:CIRCLE(126,32),20,2,.9,.52,. 98: PAINT(126, 17), 2, 2: PSET(126, 15

510 LINE(152,16)-(212,48), PRESET ,BF:CIRCLE(212,32),18,2,1,.77,.2 3: PAINT(215, 17), 2, 2: PSET(230, 32) *LINE(152,52)-(212,84), PRESET, BF *CIRCLE(212,68),18,2,1,.77,.23:P AINT(217,53),2,2:PSET(230,68)

520 PMODE4,1:SCREEN1,1:FORV=1T04 8STEP2: CIRCLE (50, 144), V, 8, . 9:NEX

530 DRAW*S20BM120,130;C2U6R3FDGN L3FDGNL3BR3HU4ER2FD4GNL2BR2U6F4D 2U6BRD5FR2EU5BR2R2FBL4NEDFR2FDGL 2NHPR5BD2"

540 DRAW"L7D4NR7D4NR7BLU8G3H3D8B LU7HL4GD3NR6D4BLNL6U4NL3BU4L6D8* 550 SOUND200,4:FORV=1T02000:NEXT : RETURN

560 FORV=1T010:PMODE3.1:SCREEN1. 0:SOUNDRND(200),1:PMODE3,1:SCREE

BATTLEFLEET

BATTLEFLEET gives you a chance to fight a sea battle against a human opponent or to lock horns with one of the most crafty naval men afloat, Admiral TRSBØCC.

This fun game, written by Bob Sleath for Spectral Associates (141 Harvard Ave., Tacoma, WA, 98466, \$14.95) lets you deploy your naval force of nine ships in secret and then shoot missiles at your enemy, who does the same. The first to destroy his opponent's force wins.

be deployed Ships can horizonally, verticallu diagonally. There are three classes of ships: carriers, battleships and cruisers -- each a different number of squares long. And, just because you might hit one of the occupied squares doesn't mean you destroy your opponent's entire ship -- you have to figure out which "way" the ship lies and zap each square in order to record a "kill." That can get pretty nerve-wracking.

BATTLEFLEET features two methods of play. In one, you fire missiles until you miss anything, and then the other side does the same. In the other, each of your ships gets to fire until it misses. The second version can get a bit fast furious.

Different classes of ships are worth different amounts of points. And there's a scoreboard that keeps (Continued on Page 17)

> N1,1:SOUNDRND(200),1:PMODE4,1:SC REEN1, 1:SOUNDRND(200), 1:NEXTV 570 DRAW"S8BM0,170;C0D3FRND2RENU 3BR3UERFDGLNHBR3U3DERBR2ND5UF4NU 4D2BR5UBUUR2UHL2GD* 580 W\$=INKEY\$:IFW\$="Y"THEN610ELS EIFW\$="N"THEN600 590 GOTO580 600 POKE (65494), 0: CLS: END 610 R=0:U=0:S=0:I=0:GOTO200 620 REM 'OH, GOB!' BY FRED B. CERBO, COPYRIGHT (C) 1981, IMB, I LLUSTRATED MEMORY BANKS, P.O. OX 289, WILLIAMSTOWN, MA 01267 630 POKE (65495), 0: RETURN

MACHINE LANGUAGE AND YOUR DISC DRIVE

A number of you have written, or called, about some of the problems associated with loading machine language programs when the new Tandy disc drive is installed in the ROM slot.

This was mentioned in the December issue's review of the Tandy disc.:system. ... And ... it CAN be a problem.

If you have machine language programs, and they are written in position independent code (which means they can run anywhere in memory), all you should have to do is relocate them in higher memory. If they were not written in position independent code, we suggest you contact the software manufacturer to ask for conversion assistance (and let us know what kind of help you get so we can alert others). Most machine language software is written so it can be relocated.

If you are writing machine language programs — or programs with such subroutines — we strongly urge you not to use any memory locations below 1000 hexidecimal. That will allow you to construct a program that can be used whether a disc is hooked up or not.

MEMORY (Cont'd from Pg. 19)

are times when I wish I had more, but then I sit down and pick my brain for a better way.

If we all voice our opinion and let it be known that we want better programs using less memory rather than being forced to expand in order to purchase or utilize a particular program, then this hobby (or, probably more appropriately, new technology) will grow and become much more fruitful.

COMPUMIND/JACKPOT

Rainbow Connection Software's Twinpack of COMPUMIND and JACKPOT contains a pair of good games written expressly for the 4K Color Computer.

Now don't let that throw you 16K and 32K people. At an extremely realistic price (\$9.95 for both from Rainbow Connection Software, 3514 6th Place NW, Rochester, MN 55901), these two programs are worth the money and can provide plenty of entertainment. For the 4K owner, COMPUMIND and JACKPOT go a long way toward solving the software search problem and, frankly, will do some of the things you had been wishing your machine was capable of doing.

COMPUMIND is like the Mastermind game and can really be addictive. You guess a secret number chosen by the computer and, in this case, get to select the number of digits the number will have. Much like Mastermind, the computer tells you whether the digits you guessed are the right ones and if they are in the correct position. Of course, it is up to you to reason this all out from the hints.

COMPUMIND gives you an evaluation of your prowess in each round and provides a composite rating as well. As the rounds go along, your rating gets better or worse depending on how well you do.

JACKPOT must have been written with insight into one-armed banditry. As in Vegas, Reno, Atlantic City or other similar places, the program seems to be trying to keep you "in" the game without letting you get very far ahead. Of course, you can hit the jackpot. Or go broke. With seven different possible symbols, you get "into" this one very quickly.

The program pays off for two of a kind and adds a bonus for three of a kind. There are noises and colors, too. In all, it is a very attractive game.

At five bucks each, these programs would be a nice addition to anyone's library.

CONVERT (Cont's from Pg. 8)

change the "-1" to "#1" and it is converted.

To print or write data to cassette, the syntax is: PRINT #-1, A,B,C. To do the same to disc, its: PRINT#1, A,B,C. In disc, you can WRITE as well as PRINT. There are differences which we won't cover here, but the point is that, again, you merely have to change "#-1" to "#1" to make your conversion.

Closing the cassette file uses: CLOSE or CLOSE-1. With disc it is CLOSE#1. Simple again.

For inputting information from disc, the only changes, again, are essentially to modify the "-1"'s to "#1"'s.

In almost every case, no other conversion is necessary. The end-of-file "marker" is different in disc than in cassette, but, again, it is a simple matter of changing a few letters in a single program line.

Because access to the disc is so easy, its also simple to move your data files from tape to disc. What you will do seems a little complicated, but it really is not.

JARB SOFTWARE 1169 FLORIDA ST. IMPERIAL BEACH, CA 92032

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All RAINEOW subscribers are eligible to deduct \$2 from cost of each program.

First, load the program which reads and writes the files onto tape simply by CLOADing it from tape and LOADing that program from memory to disc. Then, once it is on disc, modify it so that the input from tape remains the same but the output back to tape becomes an output to disc. Run the program. This should load the information into memory from your tape file. Then, using the modified part of the program, send the data not back to the tape, but to the disc. You should now have a duplicate data file on disc.

Now, modify the "front end" of the program to disc I/O like you did the output portion. LOAD that to the tape by another file name and KILL the old version of the program you placed there in the first place. Check to see if it works by then LOADing the program again from disc, using the new program to call up the data file from disc, and then sending the data file back to the disc.

In short, if you have concerns about the necessity of doing massive rewrites of your programs to make the I/O convert from tape to disc, then forget the concern. Its really just about as easy as 1-2-3.

BATTLEFLEET (Cont'd from Pg. 15) track of all this. It can be displayed any time simply by pressing one key.

This is a good, fast-moving game that can involve a lot of suspense and drama. Better yet, it is a game of logic as well, because to win means you must reason out where your opponent's ships might be hiding. Since the current status of the sea is graphically displayed, you have some hints with which to guess.

There is color and sound, of There is color and sound, of course, and the play is simple yet engrossing. And, we might add, it is extremely difficult to beat the Color Computer. But it can be done.

For a shoot-'em-up that requires some thinking and logical deduction, we can recommend BATTLEFLEET.

confused by the lack of a sync leader. This is a major advantage.

The three BASIC programs the advantage that they can easily be converted to disc by the user. have been successful in doing conversions in just few minutes. TELEWRITER. however, requires extensive knowledge of machine language programming before it can be converted. (The authors of TELEWRITER. TEXT EDITOR and C.C. WRITER are currently developing their own disc versions. I/O is much faster to disc, obviously.)

But I/O also concerns itself with printer communication. Here it to that necessaru point out WORDCC7 is the only program of the four which was developed for the Line Printer VII. The other three embedded control codes for the Epson "If you have an LP VII, you can run WORDCC7 without modification. However. C.C. Writer and TELEWRITER allow direct transmission of ASCII codes, which means you can get almost any function you wish, matter DO which printer you have.

SPECIAL FEATURES

four programs A11 are just loaded with special features such global finds, top of form, skip-over perforation, auto-centering and In fact, the only drawback in any of them is lack of justification TELEWRITER, but unless you need it -that's not 45 important as you might think. And. the author tells us he is working adding this feature to the program.

We would like to spell out the qualities here which make each Program unique. We'11 tru to highlight the most important considerations. If you have an application that is especially important to you, ME urge you to contact the software author for detailed information.

TELEWRITER is truly a state of the art word processor. Because it is the only machine language program now available, it has features others don't. In short. splendid program and well worth Input and coding special functions are a breeze. Editing as easy and as fast as is typing, and you get true displays screen cursor controls to make all of this It is outstanding in very simple. every respect.

TEXT EDITOR is the only the programs which allows variable insert capabilities. This feature allows you to place a control code in the text and then "build" around the variables. You then a file of names and addresses. and the variable insert prints "personalized" letters automatically. Of the Basic programs, its screen the most easy on eyes because blacks of the display for lower case.

C.C. WRITER has the best editor of Pasic programs. Lineseeker function 15 extremely efficient and its ability to allow edit you without requiring re-typing of a string is a big It also allows you imbed to

(Continued on Page 19)

COLORTERM (c)

The 16K Color Computer* as an intelligent terminal with \$1 or 64 columns by 21 lines and lower case!

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Cassette and Manual \$34.95 (us.) \$40.95 (canadian)

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Martin Consulting, 94 Macalester Bay, Winnipeg, Manitoba, R3T 2X5 Canada

*TM OFTANDY CORP

PROCESSORS (Cost's from Ps. 18.)
codes, so you can mix graphics and
text on the printed page. This means
you could print out a nicely designed
letterhead if you wanted and then
just start typing the letter.

WORDCC7 is the lowest-priced program of the four and is a perfect match for the printer for which it was designed, the LP VII. It is versitile enough to allow you to perform most of the functions you need in a word processor and every function is useful. It will perform youman-like service for you.

It is my belief that these word processors are priced just right, and the prices, in many ways, reflect their level of sophistication. the top end of the scale. tradeoff is an outstanding screen display and editing so easy it is hard to believe against variable inserts and justified text (in the C.C. WRITER has current version). the best editor of the Basic programs, but its screen display is not as easy to deal with. WORDCC7 is low-end product, pricewise, but still has many excellent features. If you are looking for a processor, you will have to determine your own needs and evaluate the tradeoffs.

All four programs come with excellent documentation, and all have authors willing to help you find answers to questions. TELEWRITER's documentation is first class (with a sepatate tutorial, an index and a command reference). C.C. Writer's Bill Dye has injected some good humor in his documentation, which integrates a tutorial and a system "card."

If you accurately base your purchase on your needs, you can't go wrong with any of these programs.

WORDCC7 by Kathy Goebel, DSL Computer Products
P.O. Box 1113, Dearborn, MI 48121
C. C. WRITER by L.W.C. Dye, Transformation
Technologies, BSC 2-1, 194 Lockwood Lame,
Bloomingdale, IL 68188
TEXT EDITOR by John Waclo, P.O. Box 11224,
Pittsburgh, PA 15238
TELEWRITER by Howard Cohen, Cognitec,
784 Nob Ave., Del Mar, CA 92814

Commentary. . .

HOW MUCH MEMORY?

By Al Morgan

Of late, I have been somewhat shocked at the attempts to expand the Color Computer to memory limits not even recognized as necessary by mainframe computers. This alone is bad enough, but then to expound on a defamation of Tandy Corp. because the poor little CC cannot handle the load is quite unfair.

The idea that more is better is not only false, but ridiculous as well. Back in the 60s when I first started working with computers (in the Navy I might add), all we had were gears, rack and pinions and funny little gadgets called disc ball integrators.

Yes, these were computers. As the years went by and technology exploded, we evolved to the computer of today. The fact is most mainframes have about 32K to 128K.

This does not, of course, include the giants used for who-knows-what. At the other end of the spectrum, you have the Sinclair ZX80 with only 1K. And guess what? Programs are being developed in BASIC for even the ZX80 which are superior, programming-wise, to many of the ones for the other micros like the Color Computer.

Why is this? It is because more memory leads one into sloppy programming (of course, not in all cases). The answer does not lie in expanding memory for a specific computer but in utilizing mass storage devices like discs. I do understand the need to experient, but let's all keep our heads while doing this.

Besides my Color Computer, I own an Apple II, a Health H-87 and I work with an HP processor at work (no, I'm just a tech writer). Never have I run out of RAM. Sure, there

(Continued on Page 16)

Software Review ...

GALLOPING GAMBLERS

If you like the ponies, or, for that matter, if you just like to like the ponies, GALLOPING GAMBLERS from Illustrated Memory Banks can be a great deal of fun.

Illustrated Memory Banks (P.O. Box 289, Williamstown, MA, 01267 for \$18.95) has the answer for those of you who like to visit the track but who don't want to spend your time going there. Just load in GALLOPING GAMBLERS from IMB and one to four players can enjoy the Sport of Kings.

In the high resolution version, you are treated to a bird's-eye view of the race track as the horses line up to post. You get to place your bets based on odds tabulated by the Color Computer and watch the horses take off. At the end of the race, the computer totes up your winnings, adds them to (or subtracts your

losses from) your "kitty" and gets set for the next race. And IME gives you a first class track, there are 12 races run every session (if your money and luck hold out).

This game is fast-moving and has the advantage of the excellent BASIC graphics we have come to expect from IMB. The program has enough color, movement and sound to keep everyone happy. Best of all, its something that four people can play at once ... and you can relax while the race is being run rather than having to operate the keyboard, joysticks or something else.

Additionally, the race itself is true-to-life. The "favorite" doesn't always win and cometimes a horse comes from back in the pack to make a stretch run. Its an interesting game that we believe you will enjoy.

Incidentally, joysticks are not necessary for this game.

Announcing WDRDCC7

A Word processing program for a 16K or 32K Extended Basic Color Computer with a Lineprinter VII* FEATURES:

Uses Both Print Sizes
Global Editing
Supports UPPER & lower case
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BEST OF ALL ONLY \$19.95

* Trademark of Tandy Corp.

Announcing MLRABBIT

A Tape BACK-UP Program for the Color Computer. MLRABBIT will copy any Machine Language or Basic program (Tape Based) meant for use in the Color Computer. Works with any Memory size and either Basic. Completely automatic.

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..... \$49.95

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DSL COMPUTER PRODUCTS
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P.D. Box 1113 (313)-582-340E If you've spent any time at all reading about how the Color Computer works, you know that the more code our favorite machine has to deal with, the longer it takes to execute any function.

Even though the time involved can be very small for any program line, it can add and **\$10**w UP execution down.

This situation is true for any type of line, even REMarks which, as you know, are very important in the documentation of any program.

"forget" Even the best of US exactly what we're doing REMark statements help us remember. And, the more of them the better. far as documentation 15 concerned. But slow the lines do down program. Catch-22? Sort of.

One way to handle this 15 to have two versions of the program. one and with the REMarks one without Then, you can go through non-REMarked program and delete all the lines which have REMarks in them. It will speed execution. UP

Silly Syntax

By Sugar Software

A hilarious and outrageous story game for one to ten players. This game will become one of your favorite to play and show off. Create your own stories with the built-in screen editor or order story tapes from the selection below. Silly Syntax features include creating, modifying, printing, saving and loading of stories. Included is the Silly Syntax game, two stories and the user guide.

\$19.95 - Requires Extended Basic.

Silly Syntax stories - Ten stories per cassette.

\$\$-001 -> Fairy Tales \$\$-004 -> Current Events \$\$-002 -> Sing Along \$\$-005 -> Sothic Rosance \$\$-003 -> I-rated \$\$-006 -> Adventure/Sci-Fi

99.95 - 10% off for 3 or more story cassettes.

All products are available now. Ohio residents add 5.5% sales tax. Add 91.00 per cassette for postage and handling.

Bugar Software 2153 Leah Lane Reynoldsburg, Dh 43068 (614) 861-0565 especially if your program is heavily documented.

Of course, it can be trouble to search through for the REMarked lines. Ah, who's that masked man on a white horse with solution? None other than Jorge Mir of New Berlin, WI with a program called REM-D-LEET.

REM-D-LEET will search through your program and find all lines which begin with REM and print them out. You can then easily delete all those lines in command mode. It can make life a little more simple.

few notes: (1) This only works with lines which START with REM. REMarks multi-statement on a line will not be listed. Ιt a 1 50 recognizes onlu "REM" not the abbreviation for a REMark, which an apostrophe ('). (2) If you have a printer, you might wish to add "#-2," after the PRINTs in Line 30. (3) You should tack this on the end of the program where you want the REMS These line numbers are just an example.

Don't forget to delete REM-D-LEET from your program after its done its work.

Here's the listing:

1000 '************** 1010 '******REM-D-LEET**** 1020 '*****BY JORGE MIR***** 1030 ************** 1040 P1=PEEK(25)*256+PEEK(26) 1050 P2=PEEK(27)*256+PEEK(28) 1060 B=PEEK(P1) *256+PEEK(P1+1) 1070 CLS:PRINT *REM STATEMENTS A RE LOCATED IN THE FOLLOWING PROGRAM LINES:" **1080 PRINT** 1090 A=B 1100 B=PEEK(A) #256+PEEK(A+1) 1110 IF B=0 OR B=>P2 THEN END 1120 FOR X=A+4 TO B 1130 IF PEEK(X)<>130 THEN 1150 1140 PRINT " ": PRINTUSING" ### ##" ; PEEK(A+2) *256+PEEK(A+3) ;

1150 NEXT X

1160 GOTO1090



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BACK ISSUES of the RAINBOW are expected to be shipped shortly after the first of the year. There was a slight delay in the printing schedule. Back copies can still be ordered, but once the printing is completed, no more back issues will be available — except what is on hand.

COLOR DISK DRIVES are reported to be in pretty short supply. The way we hear it, an order for Drive Ø placed today may not be filled for 60 days. Drives 1, 2 and 3 are supposed to be running 90 days behind.

SPECTACULATOR, the ROM Pac that is supposed to be like VISICALC, is due to be available the end of December. Other ROM Pac availabilities, so we hear, are: Investment Analysis, March 15; Art Gallery, due in the Tandy Warehouse in mid-December; Color Scripsit, also December 15; the Editor-Assembler, February 28.

IF YOU BUY A RS PLOTTER, there's a free disc available that will enhance this \$1900 product. It supposed to be available in mid-December.

RS is quoting a 30 day delay on their 32K upgrade, if you don't buy it when you buy the computer.

RAINBOW

Why no letters column? Simple.

With the delay by the USPS in getting the December issue out, and the slow mail for even first class, we just didn't get enough for the regular column. It'll be back next month — obviously with more than ever.

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